



ELEMENTRAC H-R

Анализатор водорода

The ELEMENTRAC H-r uses the hot extraction method for the reliable and precise determination of hydrogen in small dimensioned metals based samples like steel or iron. For this purpose the ELEMENTRAC H-r utilizes a resistance heated quartz tube furnace which can be set up to maximum temperature of 1100 °C in combination with a powerful wide range TCD.

The ELEMENTRAC H-r is easy to use, requires only rudimental maintenance and is operated by the user-friendly ELTRA ELEMENTS software.

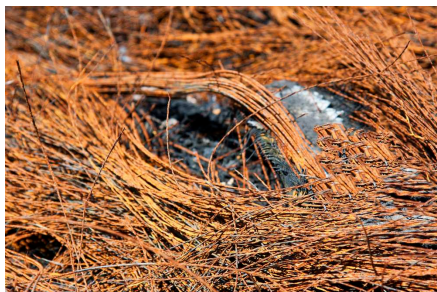


ПРЕИМУЩЕСТВА ОБОРУДОВАНИЯ

- | Resistance furnace with 13 mm inner diameter for analysis of medium and small sized samples
- | Suitable for analyzing steel samples for diffusible, residual, or total hydrogen
- | Maximum temperature of 1100 °C
- | Robust design allows use in both production control and laboratory environments
- | Easy calibration with standard materials or integrated gas dosing
- | Precise measurements even in the lower ppm concentration range

ПРИМЕРЫ ПРИМЕНЕНИЯ

| сплавы, медь, сталь



ПРИНЦИП РАБОТЫ

Operation of the ELEMENTRAC H-r is fast, safe and easy. After weighing of the sample on a connected balance the weight is transferred to the user friendly ELEMENTS software. Of course a manual application of the sample weight is also possible.

After the logging in, the sample can be placed in the cold zone of the furnace. After starting the analysis, the furnace is rotated upwards for the sample to fall into the hot zone where the sample releases its embedded hydrogen which is subsequently measured with the wide range thermal conductivity cell. Due to the application of selected temperatures also the measurement of different fractions (e.g. diffusible hydrogen) may be possible.

Depending on the applied sample mass and applied settings in the application the measurement requires 1 up to 15 minutes. After finishing of the analysis the released hydrogen amount is calculated by the software und the result could be exported as pdf, csv, txt file or via LIMS.

Calibration of the ELEMENTRAC H-r can be done via gas calibration, certified reference materials or primary substances like TiH_2 .

ELEMENTRAC H-R

ХАРАКТЕРИСТИКИ

Измеряемые элементы	водород
Материал проб	металлы, сварные швы, сталь
Направление ввода пробы в печь	горизонтально, наклонная печь
Печь	resistance furnace with quartz tube, adjustable up to 1100 °C (operating temperature 900 - 1000 °C)
Принцип детектирования	метод теплопроводности газов
Combustion tube diameter	ø 13
Максимальный размер образца	ø 11 x 60 mm
Типичное время анализа	3 - 15 min (depending on sample mass and analysis settings)
Требуемые реактивы	гидроксид натрия, перхлорат магния, реагент Шутца
Требуемый газ	Optional for the integrated gas calibration unit: Helium 99.995 % (2 - 4 bar / 30 - 60 psi)/ nitrogen 99.995 % pure (2 - 4 bar / 30 - 60 psi)
Требование к электропитанию	230В, 50/60Гц максимальный ток 2А, максимальная мощность 450Вт
Требуемое оборудование	ПК, монитор, весы (точность 0.0001г)
Опции	carrier gas purification furnace

www.eltra.com/hr

ИНФОРМАЦИЯ ДЛЯ ЗАКАЗА

ELEMENTRAC® H-R

(Пожалуйста, закажите отдельно управляющий компьютер, монитор, весы и расходные материалы (стартовый набор, ангидрон, гидроксид натрия, реактив Шутца))

Measuring ranges at 1,000 mg sample weight 2)

88200-4501		H-r (ID tube: 13 mm)	0.01 – 1,000 ppm H
88200-4500		H-r XXL (ID tube: 34 mm)	

REQUIRED ACCESSORIES

УПРАВЛЯЮЩИЙ КОМПЬЮТЕР, МОНИТОР, ВЕСЫ

71015-1000	Computer with Intel Core i5-8400 Processor, 256 GB SSD; 8 GB RAM; Windows 10 operating system; keyboard; mouse
88400-0584	Monitor, TFT (23.8")
88400-0645	Весы (разрешение 0.0001 г)

REQUIRED CONSUMABLES / CHEMICALS FOR FIRST OPERATIONS

90200		Ангидрон (перхлорат магния), 454 г 1)
90210		Гидроксид натрия, 500 г 1)
90270		Реактив Шутца, 100 г 1)

FURTHER OPTIONS AND CONSUMABLES

ACCESSORIES (HARDWARE)

88200-9000	Carrier gas purification furnace, without filling (please order filling and quartz wool separately)
88400-0610	Barcode scanner
72080	Nitrogen regulator, 1 piece

CHEMICALS (FILLINGS FOR GLASS AND QUARTZ TUBES)

90200  Ангидрон (перхлорат магния), 454 г l)

90210  Гидроксид натрия, 500 г l)

90270  Реактив Шутца, 100 г l)

90426-1001  Filling for carrier gas purification furnace (suitable for one filling)

90332  Стекловата, 50 г

92610  Tube of high vacuum grease, 35 g

SPATULAS, TWEEZERS, SPOONS AND TONGS

88400-0229  Пинцет (160 мм), скругленный, 1 штука

88400-0472  Пинцет (145 мм), прямой, 1 штука

88400-0475  Set with 6 spatula and 1 tweezers, for multiple weighing procedures

TOOLS FOR STORAGE, TRANSPORTING AND WEIGHING

36121  Quartz boat, 74 x 22 x 10 mm, 1 piece, for weighing pins

88400-0477  Weighing boat, 1 piece, for weighing and usage of granulates

TOOLS FOR MAINTENANCE

71010  Brush, 16 mm, 1 piece, for cleaning balance from dust

88400-0473		Powder funnel (plastics), 1 piece, for easy filling of chemical tubes
88400-0489		Rubber plug 14 x 20 x 24 mm, 1 piece, for sealing small glass tubes like 88400-0006
88400-0490		Rubber plug 29 x 35 x 30 mm, 1 piece, for sealing big glass tubes like 09090
88600-0027		Sodium hydroxide, Anhydrone filter tube

CALIBRATION MATERIALS

Calibration materials may show slight variations depending on the current lot.

To see the current certification please visit www.ELTRA.com.

91110		Steel, 100 balls, gold plated, 1 g each, >1.9 ppm H
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